

## ABSTRACT

### Physical Modelling Tools for Pollen-Mediated Gene Flow

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There are various methods available to simulate the gene flow (via pollen flow) and genetic confinement of partially or totally outcrossing crops. The methods can be applied to the two major modes of pollen dispersion; either insect-mediated or abiotic (wind borne). Such models (coded as computer algorithms) have a number of advantages over field assessments but should be used, hand-in-hand, with field measurements.

Empirical models are largely based upon (ideally numerous) field observations; physical models utilise (to some extent or another) the physics of atmospheric pollen dispersal to simulate pollen release, dispersion in the atmosphere and eventual deposition. This presentation will focus largely on physical models of (totally or partially) wind pollinated crops and presents example results for pollen and gene flow modelling work for regulatory application recently completed for the Canadian Food Inspection Agency.